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134,847

PATENT



SPECIFICATION

Convention Date (Switzerland), Nov. 6, 1918.

Application Date (in the United Kingdom), Nov. 5, 1919. No. 27,241/19.

Complete Accepted, Jan. 22, 1920.

COMPLETE SPECIFICATION.

Improvements in or relating to Exercising Apparatus.

I, HEINRICH WERNDLI, of 24, Rossbergstrasse, Zurich, Switzerland, Railway Official, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 5 This invention relates to that class of apparatus, known as home gymnasiums or exercisers, adapted to be used for exercising in supported and suspended or hanging positions.

Exercising apparatus are already known which comprise straps guided over rollers or pulleys, the part of these straps that hangs downward on one side of the rollers being provided with a handle, whilst to the other part of these straps that hangs downward on the other side of the rollers is attached a loop for supporting the foot. Further exercising apparatus are also known constructed after the principle of a tackle; in which the resistance of springs, weights, etc. fixed to the floor and connected up to the tackle is overcome by exerting a pull on the free end of a rope which is guided over the rollers or pulleys of the tackle.

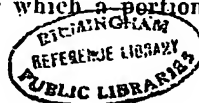
All these known exercising apparatus have the disadvantage of providing only for a totally one-sided movement of certain parts of the body, since the different exercises have to be carried out in a lying or upright position.

- 20 The present invention has for its object to provide an apparatus, adapted to be used for exercising in supported and suspended positions in order to attain an all-round training of the body, and to provide an apparatus that enables delicate persons and persons of every age to carry out without fear of over-exerting themselves, exercises which are very advantageous from a point of view of health and which, with the known apparatus and arrangements could not be carried out at all or only by very strong people.

An apparatus constructed in accordance with this invention comprises two pulleys freely hanging downwards on a member that acts as holder, for instance a ceiling, beam, tree or the like, supporting members such as straps, each guided over one of said pulleys, handles fixed to the portion of the supporting members hanging downward on one side of their guiding pulleys and foot supports fixed to the portion of the supporting members hanging downward on the other side of their guiding pulleys, the body of the exerciser being adapted to be carried totally by said two supporting members.

- 35 Each foot support may be fixed to an additional pulley over which a portion

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of the corresponding strap is guided, the free end of said strap portion being then fixed to a member carrying the guide pulley and said strap portion forming a loop in which the additional guide pulley is loosely arranged. Thereby, each strap forms together with the two pulleys over which it is passed and said member carrying the guide pulley, a tackle arrangement.

Figure 1 is a front view of a first construction according to this invention comprising two tackle arrangements;

Figure 2 is a front view of one half of a second embodiment in which the feet supports are directly suspended by the straps.

Figure 3 shows another manner of using the apparatus illustrated in Figure 2.

Figures 4, 5 and 6 illustrate different positions which the exerciser can take up when using the apparatus illustrated in Figure 1, whilst

Figure 7 shows a position that can be taken up by an exerciser using the apparatus illustrated in Figure 2.

Referring at first to Figure 1, *a* denotes two straps each of which passes over a pulley 1 and 2 respectively. Each of the pulleys 1 and 2 is rotatably mounted in a block 3. The blocks 3 are provided with a hook 4 in order that they may be suspended on a link 5 fixed to a holding member, for instance a ceiling, girder, tree or the like. The straps *a* are provided with a plurality of holes 6. Into one of the holes 6 of the portion 7 of the straps hanging downward on one side of the pulleys 1 and 2 respectively, is inserted a handle 8. Each handle 8 is provided with a hook-like member or projection 9'. The portion 9 of the straps *a* hanging downward on the other side of the pulleys 1 and 2 respectively is guided over a second loose pulley 10 and it is connected at its free end by means of a spring hook 11 to the block 3 of the pulleys 1 and 2 respectively. The pulley 1 together with its block 3 and the strap *a* passing over this pulley and one of the additional pulleys 10 constitute together a tackle arrangement; similarly, also the pulley 2 together with its block 3 and the strap *a* passing over this pulley 2 and the other one of the additional pulleys 10 constitute together a tackle arrangement. Each pulley 10 carries a block 12; on each of these blocks 12 is suspended a stirrup 15 by means of a band 13 and a ring 14. The blocks 12 are provided with a turned up projection 12'. 16 designates safety pins each of which is adapted to be passed through a hole 6 of the strap portions 9 in order to prevent upon its striking against the block 3 on a further forward movement of the handle 8. Near the free end of the portion 9 of the straps *a* are provided a plurality of loops 17.

When using the apparatus hereinbefore described, the exerciser seizes in the manner illustrated in Figures 4, 5 and 6 the handles 8 pushing at the same time his feet into the stirrups 15. According as he exerts a pull onto the portions 7 of the strap *a* by suspending his body on the handles 8 or as he uses the latter as a support, he is able to cause his limbs or the whole body to assume the most different positions. Owing to the provision of said tackle arrangement, the force that has to be exerted for carrying out the different exercises is much smaller than that which has to be exerted for the same exercises on gymnasium apparatus of the kind hitherto known. By using the novel apparatus weaker and untrained people are also able to carry out exercises which on known apparatus can be carried out only by very strong gymnasts. Any overstraining of the exerciser is thereby avoided.

Figure 4 shows the manner in which the apparatus may be used, for instance, for causing a lifting of the leg and knee in a rearward direction, an exercise very suitable for curing rheumatism in the knee and hip-joints. The apparatus may also be used in a similar manner for lifting the leg and the knee in a forward direction.

Figure 5 shows the use of the apparatus in the leaning hang, in which case an enormous expansion of the chest and strengthening of the arm- and shoulder-muscles is attained. The leaning hang into which one is able to pass from the so-called leaning-rest by lowering oneself and stretching the arms upwards and

in which position the body mainly rests on the hands, can be executed only by means of this apparatus by delicate and untrained persons.

Figure 5 shows at the same time how too much lowering of the handles is prevented by the pins 16 bearing against the blocks 3 carrying the guide-pulleys 1 and 2 respectively.

Figure 6 shows how the body of the exerciser may be brought into the stretched hang in which the arms are nearly vertical whilst the body takes up a sloping position, the small of the back being perfectly arched and the chest greatly expanded. This exercise serves chiefly for promoting the growth and for reducing contortions of the back bone.

This apparatus can also be used as a swing by fixing a rod-like member 18 (Figure 1) to the upward bent projection of the stirrups 12 and inserting the hook 9' of the handles 8 from below into one of the loops 17.

In the arrangement according to Figure 2 no additional pulleys 10 are provided. In this case the stirrup 15 is directly fixed to the portion 9 of the strap *a* by means of a band 13, ring 14 and hook 19. When using this apparatus more strength is required for doing the various exercises than is the case, when the apparatus first described is used.

Figure 7 shows how this arrangement can be used when it is desired to pass from the "resting on the hands" position into a hanging position by lifting the stretched arms sideways, from which position it is then possible to move into the "suspension with stretched legs" position by lowering the body to move again into the "resting on the hands" position by pressing in a downward direction onto the handles, all movements which may be carried out comparatively easily, whereas with the heretofore known exercising apparatus they can only be executed by very strong and well trained gymnasts.

By attaching the free end of the portion 9 of a strap *a* by means of the hook 19 to the handle 8 in the manner shown in Figure 3, this second form of apparatus may be used for exercising in the same way as the so-called rings, whereby the amount of strength required is greater than when using the apparatus in the manner shown in Figures 2 and 7.

Instead of the safety pins 16 other means may be provided for securing the position of the handles 8, 8 at a certain height.

The apparatus described can be used for carrying out gymnastic exercises which serve to promote the growth of children and people who are undersized to cure rheumatism in knee- and hip-joints, to create and strengthen muscles, to enlarge and strengthen the chest, to attain an elegant figure and a fine physique and the apparatus can also be used as a swing for children and grown-up people.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. An apparatus adapted to be used for exercising in supported and suspended positions, comprising two pulleys freely hanging on a member acting as a holder, for instance a ceiling, a girder, a tree or the like, a supporting member, for instance a strap, guided over each of said pulleys, a handle fixed to the portion of the supporting member hanging downwards on one side of the pulley, and a stirrup fixed to the portion of the supporting member hanging downward on the other side, the body of the exerciser being totally carried by the two supporting members.

2. An apparatus according to Claim 1, wherein the stirrup is carried by an additional loose pulley such as 10, over which is guided that portion of the strap such as 9 which hangs downwards on one side of the other pulley such as 1 or 2 and is fastened at its free end to the member such as 3 which holds the last mentioned pulley, each strap in combination with the two pulleys such as 1, 10 and 2, 10 over which it is guided, and with said member such as 3 forming a tackle-arrangement.

3. An apparatus according to Claim 1, wherein an adjustable safety-arrangement such as 16 is attached to the portion of each strap which carries the stirrup, which arrangement bears against the block such as 3 which carries the pulley and prevents a further downward movement of the handle.
4. An apparatus according to Claims 1 and 3, wherein each strap is provided with holes, adapted to carry the safety-pins such as 16.
5. An apparatus according to Claim 1, wherein loops such as 17 are provided on that portion of the strap carrying the stirrup, and the handle such as 8 is fitted with a hook for insertion into each of said loops.
6. An apparatus according to Claims 1, 2 and 5, wherein the loose pulleys 40 carry blocks such as 12 and means are provided on said blocks for fitting a rod-like member such as 18 for the purpose of using the apparatus as a swing after having inserted the hook of the handle into one of loops on the strap.
7. The apparatus for exercising substantially as described and substantially as illustrated in the accompanying drawings.

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Dated this 5th day of November, 1919.

BOULT, WADE & TENNANT,
111 & 112, Hatton Garden, London, E.C. 1,
Chartered Patent Agents.

[This Drawing is a reproduction of the Original on a reduced scale.]

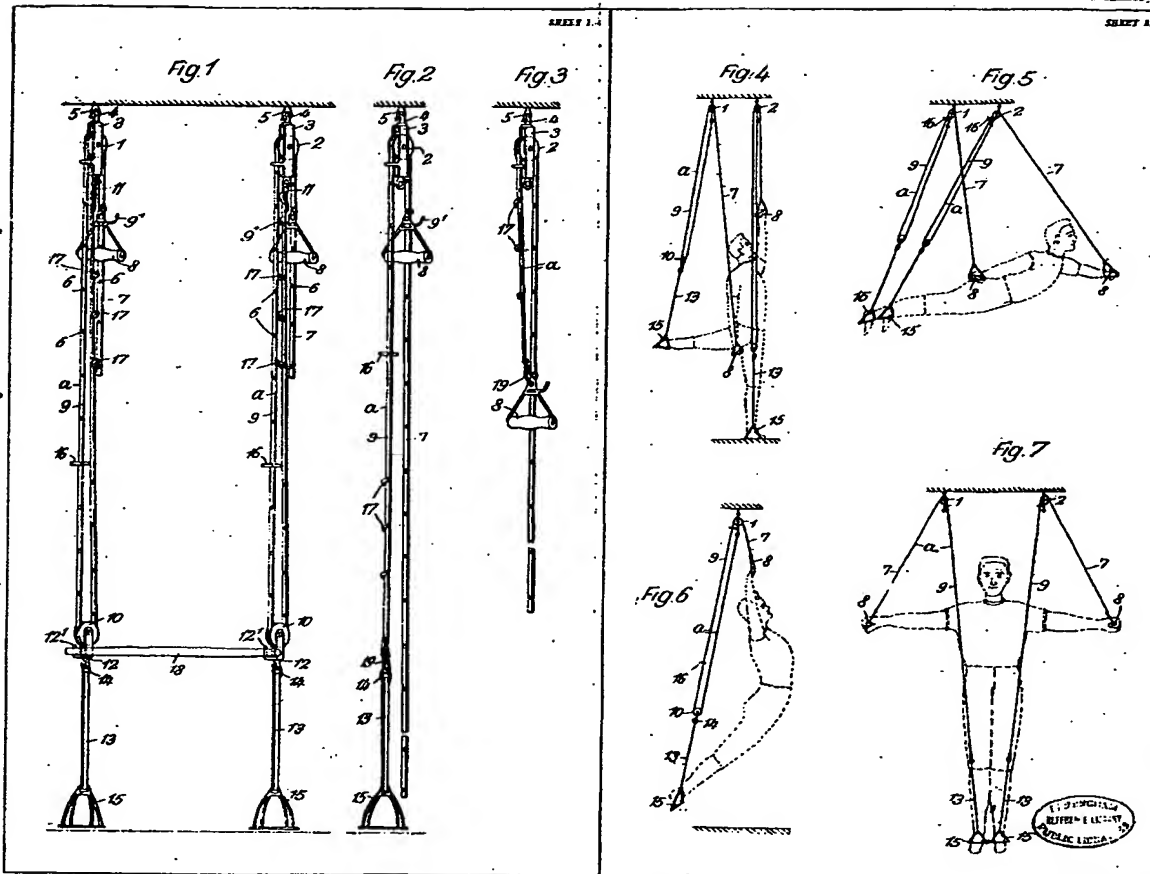


Fig. 1

Fig.2

Fig. 3

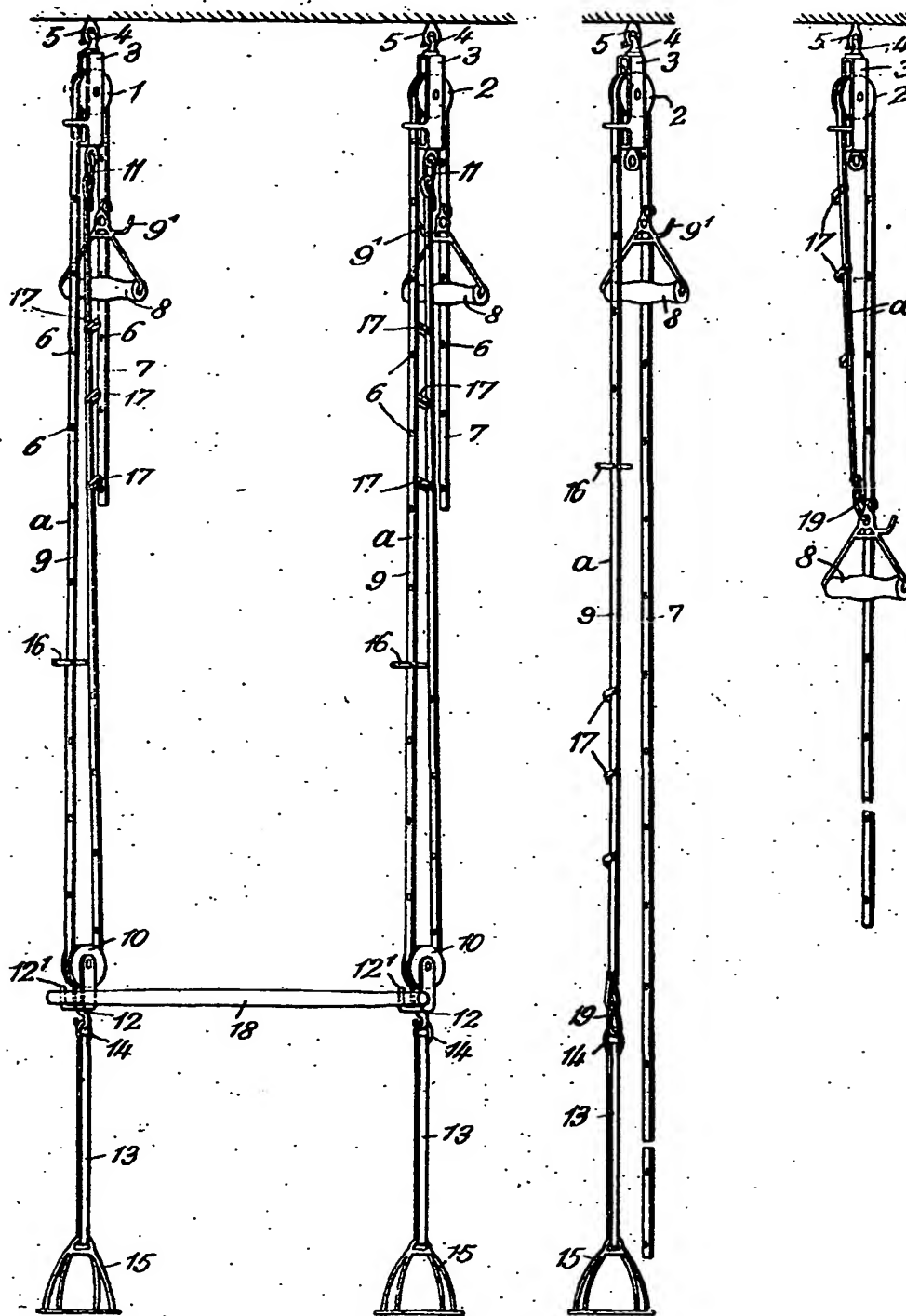


Fig. 4

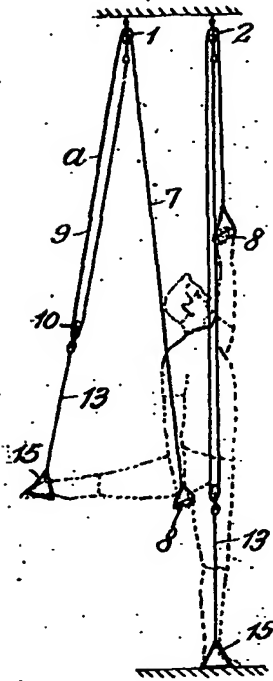


Fig. 5

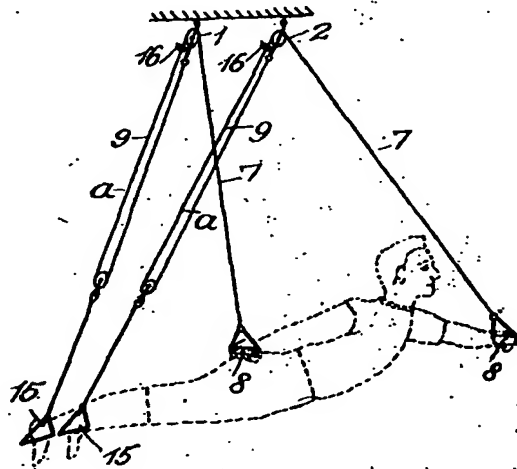


Fig. 7

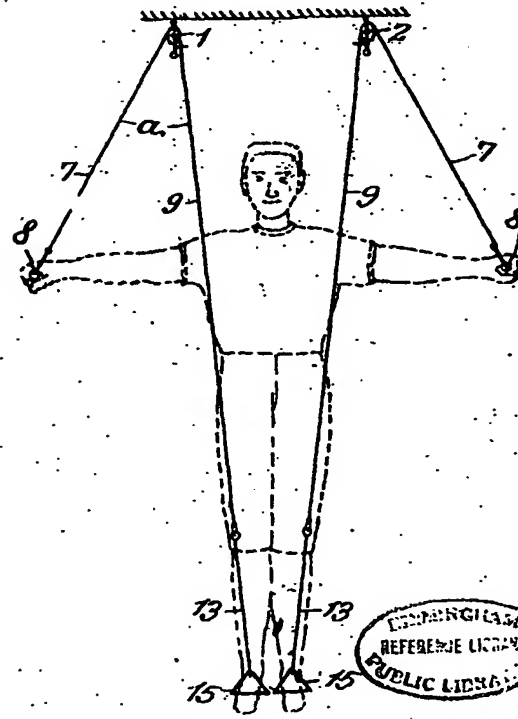
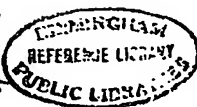
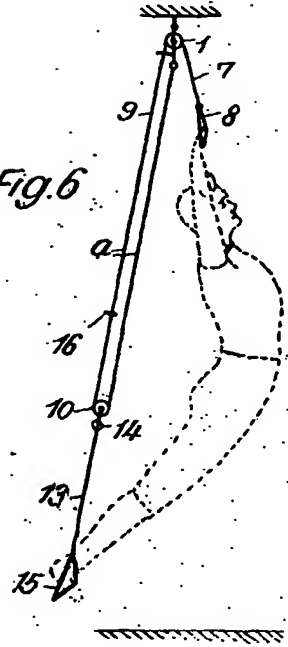


Fig. 6



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